REMARKS

Status of the Claims

In the Office Action, Claims 1-27 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,101,353 ("Lupien"). While applicant does not concede the propriety of the claim rejections, Claims 1, 10, 15, 22, and 27 have been amended. Claims 31-33, directed to a system, have been added. Claims 1-27 and 31-33 are thus pending in this application. Having reviewed the cited art and the comments provided in the Office Action, applicant submits that the claims are patentable over the cited art for the reasons discussed below. Reconsideration of the claims and allowance of the application is requested.

Claims 1-9 Are Patentable Over Lupien

Prior to discussing the reasons why Claims 1-9 are patentable over Lupien, applicant provides the following brief discussion.

According to the present application, an order may be represented simultaneously in multiple markets. The multiple markets operate independently of each other and each market is capable of executing the order. A mechanism is provided to ensure that one market, at most, executes the order.

For convenience of discussion, the following passages of the present application are repeated as follows:

> Referring now to the drawings, and in particular to FIG. 1, there is illustrated a block diagram showing the components used with the present methodology. System 5 is a general purpose computer or network of computers programmed in accordance with the present invention and functions as a platform for allowing electronic liquidity finder (ELF) programs and umpire programs to interact.
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> ....
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> An ELF may be thought of as a virtual floor broker that operates at electronic speeds. Forming an ELF is the culmination of a procedure involving configuring an order-handling program with specifications from a trader, and executing the configured program on the platform of system 5 to create an order

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handling engine, also referred to herein as a trading process. An order ELF may be coupled to as many order umpires as desired.

An order umpire may be thought of as a formal or informal market that defines and implements the rules of engagement by which information or merchandise is exchanged between ELFs. An umpire is formed by configuring a market program with configurations from a market provider, and executing the configured program on the platform of system 5 to create a market process. Generally, if activity in multiple markets is desirable, an order ELF elects to couple to multiple umpires associated with such markets, rather than expecting the umpires to link with each other.

(See page 4, lines 22-26, and page 5, lines 17-28).

Service: Representation of order in multiple markets

An order can be represented in multiple markets without risk of multiple executions. Multiple executions are prevented via several mechanisms.

In one mechanism, control over an order is associated with a particular process, usually an order ELF but sometimes an order umpire in fast symbol mode, and another process trying to execute the order must first obtain permission from the controlling process before actually executing; this mechanism is referred to as a two-phase commit.

When an umpire declares itself to be in fast symbol mode, another umpire process can execute an order represented at the fast symbol umpire, only after the order is first cancelled from the first symbol umpire.

In another mechanism, an order umpire can declare itself to be in-process, and then another umpire that subsequently becomes in-process skips its own orders that it finds, via the respective order tails of the orders, to be in-process at umpires having an in-process start time preceding the in-process start time of the instant order umpire.

It is also possible for an individual order to be in-process at an umpire, although the umpire itself is not in-process.

When an umpire is in-process, an order represented at the in-process umpire cannot be cancelled.

When an order is in-process at an umpire, the in-process order cannot be cancelled.

Accordingly, an order ELF must manage its order so that the order is in-process at no more than one umpire.

The two-phase commit and in-process mechanisms are integrated in system 5.

Figs. 93A-93C show an example of representing an order in multiple markets, specifically, an umpire asking an order ELF for affirmation before pairing the ELF's order with a contra-side order, and an order ELF canceling its order from a second market after the order is paired in a first market. See also Tables 14-16.

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> Conventional trading systems assume that an order represented in their marketplace is immediately available for execution, that is, conventional trading systems permanently operate in fast symbol mode. Accordingly, with conventional systems, when a trader wishes to represent an order in multiple markets, the trader runs the risk of multiple executions. Some trading systems are aware of other markets and will route orders in their market to another market when the price is better; however, ***conventional markets adhere to the concept of control over the order being embedded in the order. In contrast, system 5 separates control over the order from where the order is represented***. [Emphasis added.]

(See page 22, line 27 to page 23, line 29).

An example illustrating a "use case" in which an order is represented in multiple markets while duplicate execution is prevented is set forth at page 101, line 13 to page 110, line 10 of the present application, in connection with FIGURES 93A-93C.

Lupien relates to an automated system for trading securities in a portfolio. After considering portfolio data, such as a "client's current and 'normal' holdings for each security and its identification data, together with estimates of each security's price variability, cash flows, and a number of investment characteristics such as industry and sector exposures, earnings/price and debt/equity ratios," as well as "instructions concerning the maximum and minimum cash positions designated by the client and the deviations allowed from the base portfolio's individual sector, industry and security weightings" (Col. 3, lines 15-28), the system reviews real-time securities trading data and automatically issues buy and/or sell orders. (Col. 10, lines 24-30).

In contrast to Claim 1 of the present application, Lupien does not teach a method of operating at least two markets on a platform comprising a computer system. In particular, Lupien does not teach "automatically, using at least one computer, representing an order simultaneously in a first market and a second market, each of the first and second markets being able to execute the order and operating independently of each other on the computer system" and "automatically, using at least one computer, ensuring the order is executed in at most one of the first and second markets."

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With respect to Claim 1, the Office Action cited Lupien at Col. 2, lines 60-67; Col. 3, lines 1-14; Col. 5, lines 63-67; Col. 6, lines 1-67; Col. 7-12[1], lines 1-67; Col. 17, lines 63-67; and Col. 18, lines 1-49. Indeed, this same citation of Lupien is used to reject all of the pending claims, without further explanation. Applicant has reviewed the entire Lupien disclosure with emphasis on these cited passages, including the Abstract, and finds that Lupien does not anticipate the pending claims.

At Col. 2, lines 60-67 and Col. 3, lines 1-14, Lupien states:

> The present invention is an automated securities trading and portfolio management system for use by investment managers. The system is designed to increase liquidity in the secondary markets for securities and to generate incremental returns for security portfolios. Although the system of the invention works well with all diversified portfolios, it is particularly beneficial when used with large portfolios including large numbers of securities, such as those maintained by institutional investors. The invention achieves these effects by using a portion of the portfolio's holdings to offer liquidity to the market. The system contains portfolio balancing controls which seek to ensure that the risk and return characteristics of each underlying portfolio are retained throughout the liquidity generating process. The system monitors security trades, price and size quotations and various portfolio characteristics as well as other factors in real time as disclosed herein. In response to this monitoring process the system enters, alters or cancels buy and sell orders and/or sets thereof through its own network, other networks and/or with computerized brokers and/or computerized stock exchanges.

This passage of Lupien says nothing about "automatically, using at least one computer, representing an order simultaneously in a first market and a second market, each of the first and second markets able to execute the order and operating independently of each other on the computer system" and "automatically, using at least one computer, ensuring the order is executed in at most one of the first and second markets." Lupien states that his system "enters, alters or cancels buy and sell orders and/or sets thereof through its own network, other networks and/or

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[1] The Office Action cited "column 7-22 lines 1-67." As column 18 is the last column in the patent and there is no column 22, applicant believes the Examiner meant "column 7-12 lines 1-67" and responds accordingly. In any event, applicant has considered the entire reference in preparing this response.

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with computerized brokers and/or computerized stock exchanges" but there is nothing to suggest that the orders are represented simultaneously in both a first and second market which are able to execute the order and operate independently of each other on the computer system, nor is there anything to suggest that Lupien's system ensures the order is executed in at most one of the first and second markets.

The cited passage extending from Col. 5, line 63, to Col. 12, line 67, is too large to repeat here, but applicant has considered the disclosure and submits that Lupien fails to teach or suggest the method recited in Claim 1. At best, Lupien teaches a procedure in which an order is first represented internally and if the order is not executed, the system can decide to send the order to an external system. See Figure 7, elements 44, 46, and 48 (if there is no internal order match at block 44, control is passed to block 46 where the order is sent to an external market for possible match at block 48.)

As can be seen from this passage, Lupien fails to teach the claimed first and second markets "operating independently of each other on the computer system," much less "automatically, using at least one computer, representing an order simultaneously in a first market and a second market, each of the first and second markets being able to execute the order" and "automatically, using at least one computer, ensuring the order is executed in at most one of the first and second markets."

Lastly, the Office Action cited the text of Claim 12 of Lupien at Col. 17, line 63, to Col. 18, line 49, which states:

> 12. An on-line interactive event-driven investment processing system for providing added liquidity to continuous auction markets for investment securities and for managing in a real-time environment the interaction of one or more large portfolios of investment securities with each other and with the securities markets, wherein each portfolio has an inventory including numerous and diverse securities and each portfolio has separate portfolio objectives represented by a specified desired mix of investments in securities and cash reserves through generation of

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trading decisions in the form of buy and sell orders on behalf of each of those portfolios comprising:

first mass storage means within a central processing unit for collecting and storing securities transaction data and price quotation data both from a plurality of securities markets external to the system and from buy and sell orders and transactions generated internal to the system;

controller means for accessing data stored in said first storage means, for analyzing the data stored in said first storage means and for substantially simultaneously transacting multiple purchases and sales of a plurality of securities for one or more of the investor portfolios;

second mass storage means coupled to said controller means for collecting and storing data for each investor portfolio concerning that particular portfolio and for storing buy and sell orders on behalf of that particular portfolio;

investor computer means for maintaining each investor portfolio wherein said investor computer means is coupled to said second storage means for analyzing data concerning the portfolio of that particular investor and for generating buy and sell orders for transmission to said second storage means on behalf of that portfolio in order to retain the portfolio objectives while also providing liquidity to the securities market;

third mass storage means coupled to said controller means for collecting and storing data concerning the portfolios of all investors using the system;

supervisory computer means coupled to said third storage means for supervising and ensuring the proper functioning of the system;

external data terminal means coupled to said controller means for linking said controller means to external automated securities brokers and exchanges and for transmitting orders and transaction data to external automated securities brokers and exchanges;

trade data terminal means coupled to said controller means for reporting all executed sales internal to the system to a central reporting house; and

settlement data terminal means coupled to said controller means for reporting all trades involving individual securities for settlement purposes to an external organization.

From this disclosure, it appears that Lupien's "external data terminal means" can choose among external automated securities brokers and exchanges for transmitting orders and transaction data but this disclosure says nothing about operating at least two markets on a platform comprising a computer system. Particularly, this disclosure says nothing about representing an order simultaneously in a first market and a second market, wherein each of the first and second markets are able to execute the order and operate independently of each other on

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the computer system, and ensuring the order is executed in at most one of the first and second markets, as claimed in Claim 1.

For the above reasons, applicant submits that Claim 1 is patentable over Lupien and should be allowed.

As noted above, the Office Action cited same passages of Lupien *en masse* against all the claims in the application, including Claims 2-9 which are dependent on Claim 1. No further explanation was provided in the Office Action. Applicant submits that Claims 2-9 are in fact allowable over Lupien, both for their dependence on allowable Claim 1, and for the additional subject matter they recite, including:

- wherein each of the first and second markets operates according to a two phase action protocol, and the automatically ensuring includes obtaining permission to act from a controlling process (Claim 2);
- wherein the permission is an affirmation to act upon a specified number of shares of the order (Claim 3);
- wherein the controlling process is a trading process (Claim 4);
- wherein the controlling process is a market process (Claim 5);
- wherein one of the markets is in fast symbol mode, and the automatically ensuring includes canceling the order from the fast symbol market before executing in the other of the markets (Claim 6);
- wherein the automatically ensuring includes determining whether the order is in process at another market (Claim 7);
- wherein the order includes an order tail indicating the markets in which it is represented (Claim 8); and
- wherein a platform process maintains a market file indicating the markets in which an order is represented, and wherein the automatically ensuring includes checking the market file (Claim 9).

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Allowance of Claims 1-9 is requested.

Claims 10-14 Are Patentable Over Lupien

Claim 10 of the present application recites a method of representing an order in at least two markets. The method comprises "automatically, using at least one computer, sending the order to at least two markets for simultaneous representation of the order in the at least two markets, each of the at least two markets being able to execute the order and operating independently of each other" and "automatically, using at least one computer, ensuring that executing authority for the order is in a single point."

For reasons similar to those discussed above, applicant submits that Claim 10 is patentable over Lupien. Further, in addition to failing to disclose simultaneous representation of an order in at least two markets, wherein the markets are able to execute the order and operate independently of each other, Lupien also fails to disclosure "automatically . . . ensuring that executing authority for the order is in a single point." According to Lupien, CPU 10 is responsible for trades on Lupien's internal system, where external trading processes must complete their trading transactions outside of Lupien's system.

As noted above, the Office Action cited Lupien at Col. 2, lines 60-67; Col. 3, lines 1-14; Col. 5, lines 63-67; Col. 6, lines 1-67; Col. 7-12[2], lines 1-67; Col. 17, lines 63-67; and Col. 18, lines 1-49, but these passages do not teach or suggest the method claimed in Claim 10. Accordingly, Claim 10 should be allowed.

Applicant further submits that Claims 11-14 are allowable over Lupien, both for their dependence on allowable Claim 10, and for the additional subject matter they recite, including:

- wherein the single point is a trading process (Claim 11);
- wherein the order is associated with information indicating where execution authority for the order resides (Claim 12);

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[2] See footnote 1.

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- wherein the associated information indicates whether any market at which the order is represented is in process, and the single point is the in process market (Claim 13); and
- wherein the associated information is used to determine whether a process can declare itself to be the single point (Claim 14).

Allowance of Claims 11-14 is requested.

Claims 15-21 Are Patentable Over Lupien

Like Claim 10, Claim 15 is directed to a method of representing an order in at least two markets. In Claim 15, the method comprises "automatically, using at least one computer, affirming availability of a specified number of shares of the order to one of the at least two markets, each of the at least two markets being able to execute the order and operating independently of each other" and "automatically, using at least one computer, receiving a pairing report from the one market for at least one of the affirmed shares."

Applicant submits that Lupien fails to teach or suggest all of the elements of Claim 15. As such, Lupien does not support a *prima facie* rejection of Claim 15 under 35 U.S.C. 102(b).

According to Lupien, confirmation of a match received by CPU 10 from an external trading process constitutes neither "affirming availability of a specified number of shares of the order to one of the at least two markets" nor "receiving a pairing report from the one market for at least one of the affirmed shares."

The passages of Lupien cited in the Office Action and noted above do not teach or suggest the features claimed in Claim 15. Accordingly, Claim 15 should be allowed.

Applicant further submits that Claims 16-21 are allowable over Lupien, both for their dependence on allowable Claim 15, and for the additional subject matter they recite, including:

- automatically canceling the paired shares from another of the at least two markets (Claim 16);

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- placing an instruction to cancel at least one of the paired shares in a queue when the other market indicated that the at least one paired share was in process at the other market (Claim 17);
- checking availability of the shares before automatically affirming (Claim 18);
- wherein the checking availability is based on a number of unpaired shares of the order and a number of in process shares of the order (Claim 19);
- marking shares as in process after affirming their availability (Claim 20); and
- wherein the shares are marked as in process for the market to which the shares were affirmed, and further comprising summing the in process shares at all of the markets at which the order is represented to obtain an in process number of shares (Claim 21).

Allowance of Claims 15-21 is requested.

Claims 22-27 Are Patentable Over Lupien

Lastly, Claim 22 recites a method of executing an order in a market, comprising "automatically, using at least one computer, at a receiving market that operates on a computer system, receiving the order from a source, the order being simultaneously represented in at least two markets that operate independently of each other on the same computer system and are each able to execute the order", "automatically, using at least one computer, determining whether the receiving market has authority to execute the order", and "automatically, using at least one computer, executing the order after the receiving market has determined that it has authority to execute the order."

Lupien does not disclose all of the elements of Claim 22. For reasons similar to those discussed above, applicant submits that Claim 22 is patentable over Lupien.

In particular, Lupien does not disclose "a receiving market that operates on a computer system" wherein an order is "simultaneously represented in at least two markets that operate independently of each other on the same computer system." Lupien also fails to teach or

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suggest "determining whether the receiving market has authority to execute the order" and "executing the order after the receiving market has determined that it has authority to execute the order." Lupien at best teaches a procedure in which an order is initially represented internally and if the order is not executed, the system then may place the order with an external system. See Figure 7, elements 44, 46, and 48.

The passages of Lupien cited in the Office Action at Col. 2, line 60 to Col. 3, line 14; Col. 5, lines 63-67; Col. 6, line 1 to Col. 12, line 67; and Col. 17, line 63 to Col. 18, line 49 are not availing with respect to Claim 22. Accordingly, Claim 22 should be allowed.

Applicant further submits that Claims 23-27 are allowable over Lupien, both for their dependence on allowable Claim 22, and for the additional subject matter they recite, including:

- wherein the determining includes affirming availability of the order with the source (Claim 23);
- wherein the determining includes checking whether another market has authority to execute the order based on information associated with the order (Claim 24);
- wherein the checking includes examining an order tail (Claim 25);
- wherein the checking includes examining a central order file (Claim 26); and
- wherein automatically determining includes canceling the order from other markets at which it is represented before the order is executed at the receiving market (Claim 27).

Allowance of Claims 22-27 is requested.

New Claims 31-33 Are Patentable Over Lupien

New Claim 31 is directed to a system comprising at least one computer having a processing component configured to operate a first market and a second market at which market participants can trade. The processing component is further configured to receive an order from a market participant and simultaneously represent the order in both the first market and the second market. The first and second markets each operate independently of the other on the

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computer and each are capable of executing the order. The processing component is further configured to ensure that the order is executed in at most one of the first and second markets. Applicant has reviewed Lupien and submits that Claim 31 presents subject matter that is patentable over Lupien.

Applicant further submits that Claims 32 and 33 are allowable over Lupien, both for their dependence on allowable Claim 31, and for the additional subject matter they recite, including:

- wherein the first or second market that intends to execute the order is an executing market, and wherein the processing component is configured to ensure that the order is executed in at most one of the first and second markets by determining whether the executing market has authority to execute the order (Claim 32); and
- wherein the processing component is further configured to cancel the order from the other of the first or second market at which the order is represented before executing the order at the executing market (Claim 33).

CONCLUSION

In view of the above amendments and remarks, applicant requests withdrawal of the claim rejections and issuance of a notice of allowance. The Examiner is invited to contact the undersigned counsel by telephone should any matters remain.

Respectfully submitted,

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